

PROCEEDINGS
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THREE NEW SHREWS OF THE GENUS *CRYPTOTIS*.

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Among the Mexican and Central American shrews in the United States National Museum are three specimens of *Cryptotis* which differ so widely from members of the described species that each must be regarded as the representative of a new form.

***Cryptotis gracilis* sp. nov.**

Type.—Adult (skin and skull) No. $\frac{12236}{38171}$, U. S. National Museum. Collected at head of Lari River, near base of Pico Blanco, Talamanca, Costa Rica, by Wm. M. Gabb. Altitude about 6,000 feet.

Diagnosis.—Size and general appearance as in the *Cryptotis mexicana* group (including the Costa Rican *C. orophila*); skull narrow and elongated, this peculiarity more pronounced than in the small *C. tropicalis* and *C. soricina*.

Color.—Entire animal a dark smoke-gray, the upperparts heavily washed with blackish brown, the general effect darker and less plumbeous than in a skin of *C. orophila* taken in February; under-color slate-gray.

Skull.—The skull about equals that of *Cryptotis mexicana* or *C. orophila* in length, but the width throughout is noticeably less, this peculiarity equally appreciable in braincase, interorbital region, rostrum, and palate. Braincase nearly circular in outline when viewed from above, the lateral angles barely indicated; viewed from behind, it is conspicuously narrower in proportion to its depth than in *C. mexicana* and *C. orophila* and appreciably more so than in *C. soricina* and *C. tropicalis*. While the braincase retains essentially the same depth as in the other species of similar size, the rostrum is lower, so that the general outline of skull in lateral view is more strongly cuneate. Antorbital foramen smaller than in *C. mexicana* or *C. orophila*, but in same position, its posterior border over space between m^1 and m^2 . Mandible decidedly more slender than in *mexicana* and *orophila*, but not peculiar in form.

Teeth.—Upper incisors and unicuspid similar in general to those of

C. mexicana, the unicuspid showing no tendency toward the conspicuously concave posterior border characteristic of these teeth in *C. orophila*; inner tubercle of unicuspid faintly developed, much as in *C. mexicana peregrina*. Upper cheek-teeth sharing in the general reduction of width characteristic of entire skull, this tendency especially noticeable in the large premolar, the posterior border of which is decidedly shorter than outer border, while in *C. mexicana* and *C. orophila* they are about equal; emargination of posterior borders slight, essentially as in *mexicana* and *orophila*; hypocenes somewhat better developed than usual; m^3 with well developed metacone and third commissure. Mandibular teeth less robust than in *C. mexicana* and *C. orophila* but with no special peculiarities of form.

Measurements.—Head and body,* 70; tail,* 35; hind foot, 13.6 (12.4); condylobasal length of skull, 18.6 (19.4)†; lachrymal breadth, 4.2 (5.0); zygomatic breadth, 5.2 (6.0); distance between zygomatic root and gnathion, 8.2 (8.2); breadth of braincase, 9.0 (10.0); depth of braincase, 5.4 (5.4); mandible, 10.4 (11.0); maxillary tooththrow (entire), 8.8 (9.0), mandible tooththrow (entire), 7.8 (8.2).

Remarks.—Three very distinct species of *Cryptotis* are now known to occur in Costa Rica: the medium sized *C. orophila* on the Volcano of Irazu, *C. gracilis* in Talamanca, and the small *C. nigrescens* at San José. The last is further distinguished from the two others by the reduced condition of the posterior molar both above and below; m^3 with mesostyle, metacone, and their commissures very small and barely differentiated, m_2 with posterior V reduced to a loop scarcely more than one-fourth as large as anterior V.

***Cryptotis frontalis* sp. nov.**

Type.—Adult female (in alcohol) No. 123,429, U. S. National Museum. Collected near the City of Tehautepec, Mexico, by F. Sumichrast.

Diagnosis.—Size and general appearance as in *C. mexicana mexicana*. Skull with more robust rostrum and with braincase unusually deepened posteriorly, and rising anteriorly at a much more conspicuous angle (in this respect noticeably surpassing *C. nelsoni*); teeth larger than in true *mexicana* but inner tubercles of upper unicuspid less developed, though retaining distinctly pigmented tips.

Measurements.—Head and body, 66; tail, 27; hind foot, 12.2 (11.0). Skull: condylobasal length, 19.0 (18.6)‡; zygomatic breadth, 6.2 (6.0); lachrymal breadth, 5.0 (5.0); breadth of braincase, 10.2 (10.0); depth of braincase, 6.2 (5.6); mandible, 10.6 (10.0); maxillary tooththrow, 8.6 (8.6); mandibular tooththrow, 8.0 (8.0).

*Approximate; from skin.

†Measurements in parenthesis are those of an adult female topotype of *C. orophila* (No. 116,649).

‡Measurements in parenthesis are those of an adult female topotype of *C. mexicana mexicana*.

Cryptotis pergracilis macer subsp. nov.

Type.—Adult female (in alcohol) No. $\frac{15565}{38494}$, near Guanajuato City, Mexico, by A. Dugès.

Characters.—Similar to *Cryptotis pergracilis pergracilis* Elliot, but with third upper unicuspid relatively larger, its area when viewed from the side distinctly more than half that of first unicuspid.

Measurements.—Head and body, 50; tail, 17.4; hind foot, 10 (9.2). Skull: condylobasal length,—(16.0)*; from gnathion to posterior border of parietal in median line, 14.0 (13.8); zygomatic breadth, 5.0 (5.0); lacrymal breadth, 3.6 (3.6); mandible, 8.4 (8.4); maxillary tooththrow, 7.2 (7.0); mandibular tooththrow, 6.6 (6.4).

Remarks.—In three specimens of *Cryptotis pergracilis pergracilis* from Ocotlan, Jalisco, the type locality, the third upper unicuspid is uniformly less than half as large as first when viewed from outer side.



* Adult female, Topotype of *pergracilis*.